

Amendment to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-25 (canceled).

Claim 26 (currently amended): An enzyme immunoassay construct, comprising:

a first substrate to which is bound ~~at least one~~ a plurality of detection multiple antigenic ~~peptide~~ peptides, each detection multiple antigenic peptide comprising a portion of an immunodominant region of a transmembrane envelope protein of a primate immunodeficiency virus, wherein at least one simian immunodeficiency virus is represented in at least one of the detection multiple antigenic peptides; and

a second substrate to which is bound ~~at least one~~ a plurality of differentiation multiple antigenic ~~peptide~~ peptides, each differentiation multiple antigenic peptide comprising a portion of a V3-loop of an envelope protein of a primate immunodeficiency virus, wherein at least one simian immunodeficiency virus is represented in at least one of the differentiation multiple antigenic peptides;

wherein the detection multiple antigenic peptide and the differentiation multiple antigenic peptide each comprise a core matrix and at least two linear antigenic sequences bonded to the core matrix, each linear antigenic sequence comprising less than ~~about~~ 16 amino acid residues.

Claim 27 (original): The immunoassay of claim 26, wherein the detection multiple antigenic peptide comprises a portion of the immunodominant region of the transmembrane protein gp41 or gp36, and the differentiation multiple antigenic peptide comprises a portion of the V3-loop of the envelope protein gp120.

Claim 28 (currently amended): The immunoassay of claim 26, wherein each linear antigenic sequence of the detection multiple antigenic peptide comprises ~~about~~ 5 to ~~about~~ 15 amino acid residues, and each linear antigenic sequence of the differentiation multiple antigenic peptide comprises ~~about~~ 5 to ~~about~~ 15 amino acid residues.

Claim 29 (currently amended): An enzyme immunoassay construct, comprising:

a first array of a plurality of detection multiple antigenic peptides comprising a portion of an immunodominant region of a transmembrane protein of a primate immunodeficiency virus;
and

a second array of a plurality of differentiation multiple antigenic peptides comprising a portion of a V3-loop of an envelope protein of a primate immunodeficiency virus, wherein the detection multiple antigenic peptide and the differentiation multiple antigenic peptide each comprise a core matrix and at least two linear antigenic sequences bonded to the core matrix, each linear antigenic sequence comprising less than ~~about~~ 16 amino acid residues and at least one simian immunodeficiency virus is represented in at least one of the detection multiple antigenic peptides or the differentiation multiple antigenic peptides.

Claims 30-35 (canceled).

Claim 36 (original): The immunoassay of claim 26, wherein the immunoassay does not include any detection multiple antigenic peptide from a human immunodeficiency virus and any differentiation multiple antigenic peptide from a human immunodeficiency virus.

Claims 37-40 (canceled).

Claim 41 (previously presented): The immunoassay of claim 26, wherein the linear antigenic sequence of the detection multiple antigenic peptide comprises a sequence of WGCSGKAVCYT (SEQ ID NO: 1).

Claim 42 (previously presented): The immunoassay of claim 26, wherein the linear antigenic sequence of the differentiation multiple antigenic peptide comprises RGEVQIGPGMTFYNI (SEQ ID NO: 14).

Claim 43 (previously presented): The immunoassay of claim 26, wherein the linear antigenic sequence of the detection multiple antigenic peptide comprises a sequence of

WGCSGKAVCYT (SEQ ID NO: 1) and the linear antigenic sequence of the differentiation multiple antigenic peptide comprises RGEVQIGPGMTFYNI (SEQ ID NO: 14).

Claim 44 (previously presented): The immunoassay of claim 26, wherein the linear antigenic sequence of the detection multiple antigenic peptide comprises a sequence

$X_1GCX_4X_5X_6X_7X_8CX_{10}T$

wherein X_1 is W, I or F;

X_4 is S, A or Q;

X_5 is G, D, F, W or N;

X_6 is K, R, M, S, A;

X_7 is A, V or Q;

X_8 is V, or I; and

X_{10} is Y, H or R.

Claim 45 (previously presented): The immunoassay of claim 26, wherein the detection multiple antigenic peptide and the differentiation multiple antigenic peptide each comprise four linear antigenic sequences bonded to their respective core matrix.

Claim 46 (previously presented): The immunoassay of claim 26, wherein there are a plurality of detection multiple antigenic peptides and a plurality of differentiation multiple antigenic peptides, and all recognized SIV strain epitopes are represented in at least one of the detection multiple antigenic peptide or the differentiation multiple antigenic peptide.

Claim 47 (withdrawn): The immunoassay of claim 26, wherein the linear antigenic sequence of the differentiation multiple antigenic peptide comprises VLPVTIMSGLVFHSQ (SEQ ID NO: 15).

Claim 48 (withdrawn): The immunoassay of claim 26, wherein the linear antigenic sequence of the differentiation multiple antigenic peptide comprises VLPVTIMAGLVFHSQ (SEQ ID NO: 16).

Claim 49 (withdrawn): The immunoassay of claim 26, wherein the linear antigenic sequence of the differentiation multiple antigenic peptide comprises IKNIQLAAGYFLPVI (SEQ ID NO: 17).

Claim 50 (withdrawn): The immunoassay of claim 26, wherein the linear antigenic sequence of the differentiation multiple antigenic peptide comprises EVSTISSTGLLFYYG (SEQ ID NO: 18).

Claim 51 (withdrawn): The immunoassay of claim 26, wherein the linear antigenic sequence of the differentiation multiple antigenic peptide comprises HRNLNTANGAKFYFE (SEQ ID NO: 19).

Claim 52 (withdrawn): The immunoassay of claim 26, wherein the linear antigenic sequence of the differentiation multiple antigenic peptide comprises VKGISLATGVFISLR (SEQ ID NO: 20).

Claim 53 (withdrawn): The immunoassay of claim 26, wherein the linear antigenic sequence of the differentiation multiple antigenic peptide comprises IVSVPSASGLIFYHG (SEQ ID NO: 21).

Claim 54 (withdrawn): The immunoassay of claim 26, wherein the linear antigenic sequence of the differentiation multiple antigenic peptide comprises YRAVHMATGLSFYTT (SEQ ID NO: 22).

Claim 55 (previously presented): The immunoassay of claim 26, wherein the linear antigenic sequence of the detection multiple antigenic peptide comprises a sequence of WGCSGKAVCYT (SEQ ID NO: 1), IGCANMQICRT (SEQ ID NO: 8), or FGCAWRQVCHT

(SEQ ID NO: 9), or a sequence having at least 80% sequence identity to one or more of these sequences.

Claim 56 (previously presented): The immunoassay of claim 26, wherein the linear antigenic sequence of the differentiation multiple antigenic peptide comprises one of SEQ ID NOS: 14-22 or a sequence having at least 80% sequence identity to one or more of those sequences.

Claim 57 (currently amended): The immunoassay of claim 29, wherein each linear antigenic sequence of the detection multiple antigenic peptide comprises ~~about~~ 5 to ~~about~~ 15 amino acid residues, and each linear antigenic sequence of the differentiation multiple antigenic peptide comprises ~~about~~ 5 to ~~about~~ 15 amino acid residues.

Claim 58 (previously presented): The immunoassay of claim 29, wherein the linear antigenic sequence of the detection multiple antigenic peptide comprises a sequence of WGCSGKAVCYT (SEQ ID NO: 1) and the linear antigenic sequence of the differentiation multiple antigenic peptide comprises RGEVQIGPGMTFYNI (SEQ ID NO: 14).

Claim 59 (previously presented): The immunoassay of claim 29, wherein the detection multiple antigenic peptide and the differentiation multiple antigenic peptide each comprise four linear antigenic sequences bonded to their respective core matrix.